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Mathews

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[54] METHOD OF REMANUFACTURING A ROCK DRILL BIT

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[58] Field of Search ..... 76/108 R, 108 A; 29/402.01, 402.03, 402.04, 402.08, 402.09, 402.13, 402.16

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[57] ABSTRACT

Methods for the remanufacture and reconditioning of rock drill bits of the type which include rolling cone cutters are provided. One method includes the steps of separating the bit leg extensions, journals and cone cutters from the bit body along a line perpendicular to the center of rotation of the bit body, salvaging usable cutter teeth, forming new leg, journal and cone assemblies and attaching the new assemblies to the salvaged bit body, which has been suitably machined to accept the new assemblies. An alternate method includes removing separately each leg, journal and cone cutter from the bit body in a manner which forms a curved saddle bore in the bit body, forming a new leg, journal and cone assembly including a mating surface corresponding to the configuration of the saddle bore and attaching each new assembly to the bit body at a saddle bore. A method of original manufacture for a rock drill bit is also disclosed wherein a one piece, unitary bit body is formed and the desired number of leg, journal and cone assemblies attached to the bit body according to one of the methods employed in the reconditioning process.

15 Claims, 7 Drawing Figures